

✓ Check-In: Questions 6-11
Use a number line.

6. A. If a +6 hopper starts on 0 and hops 4 times where will it land?
B. Write a multiplication number sentence to describe the hopper's trip.
7. A. A hopper starts at 0 and hops 6 times. It lands on 18. What kind of a constant hopper is it?
B. Show or tell how you know.
C. Write a number sentence to show the hopper's trip.
8. A. If a +4 hopper starts on 3 and hops 4 times where will it land?
B. Write a number sentence to describe the hopper's trip.
9. A. Where will a -5 hopper land if it starts at 35 and hops 7 times?
B. Write a number sentence to describe its trip.
10. A. A hopper starts on 14 and hops 4 times. It lands on 6. What kind of constant hopper is it?
B. Show or tell how you know.
C. Write a number sentence to describe the hopper's trip.
11. Rosa writes this number sentence to describe the trip for a +6 hopper:

$2 + 4 \times 6 = \underline{\quad}$

Kim thinks the hopper will land on 26 but Mara thinks it will land on 36.
Who do you agree with? Show or tell how you made your decision.

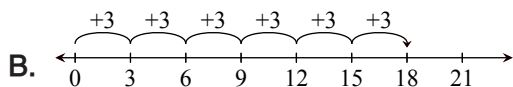
For more practice with constant hoppers and number sentences, use the *Constant Hoppers and Number Sentences* Homework pages in the *Student Activity Book*.



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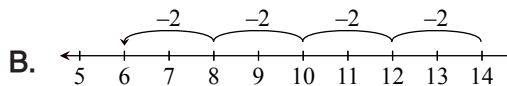
6. A. 24
B. $6 \times 4 = 24$
7. A. +3 hopper



C. $3 + 3 + 3 + 3 + 3 + 3 = 18$ or $6 \times 3 = 18$

8. A. 19
B. $3 + 4 \times 4 = 19$
9. A. 0
B. $35 - (7 \times 5) = 0$

10. A. -2



C. $14 - (4 \times 2) = 6$

11. Kim is correct. Possible response:
I multiplied 4×6 first to get 24 and then added 2 to make 26.

Student Activity Book

Constant Hoppers and Number Sentences (SAB pp. 391–392)
Questions 1–7

1. A +3 hopper starting on 0

Number of Hops	Hop Size	Lands On	Number Sentence
1	3	3	$1 \times 3 = 3$
2	3	6	$2 \times 3 = 6$
3	3	9	$3 \times 3 = 9$
4	3	12	$4 \times 3 = 12$
5	3	15	$5 \times 3 = 15$

2. A +5 constant hopper starting on 0

Number of Hops	Hop Size	Lands On	Number Sentence
1	5	5	$1 \times 5 = 5$
2	5	10	$2 \times 5 = 10$
3	5	15	$3 \times 5 = 15$
4	5	20	$4 \times 5 = 20$
5	5	25	$5 \times 5 = 25$

3. A constant hopper starting on 0

Number of Hops	Hop Size	Lands On	Number Sentence
1	4	4	$1 \times 4 = 4$
2	4	8	$2 \times 4 = 8$
3	4	12	$3 \times 4 = 12$
4	4	16	$4 \times 4 = 16$
5	4	20	$5 \times 4 = 20$

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Constant Hoppers and Number Sentences



Use the *Number Line 0–30* page in the Reference section of the *Student Guide* to help you complete each table.

1. A +3 hopper starts at 0.

Number of Hops	Hop Size	Lands On	Number Sentence
1	3		
2	3	6	$2 \times 3 = 6$
3	3		
4	3		
5	3		

2. A +5 hopper starts at 0.

Number of Hops	Hop Size	Lands On	Number Sentence
1	5		
2	5		
3	5		
4	5		
5	5		

3. A constant hopper starts at 0.

Number of Hops	Hop Size	Lands On	Number Sentence
1		4	
2		8	
3		12	
4		16	
5		20	

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4. A +3 hopper starting on 2

Number of Hops	Hop Size	Lands On	Number Sentence
1	3	5	$2 + 3 \times 1 = 5$
2	3	8	$2 + 3 \times 2 = 8$
3	3	11	$2 + 3 \times 3 = 11$
4	3	14	$2 + 3 \times 4 = 14$
5	3	17	$2 + 3 \times 5 = 17$

5. A -2 hopper starting on 12

Number of Hops	Hop Size	Lands On	Number Sentence
1	-2	10	$12 - 1 \times 2 = 10$
2	-2	8	$12 - 2 \times 2 = 8$
3	-2	6	$12 - 3 \times 2 = 6$
4	-2	4	$12 - 4 \times 2 = 4$
5	-2	2	$12 - 5 \times 2 = 2$

6. Possible response: The numbers in the Hop Size column are always the same. The numbers in the Lands On column are multiples of the hop size. Going across the rows, if you multiply the number of hops times the hop size you get the lands on number.
7. The number sentences in Questions 1–3 are multiplication number sentences, number of hops times hop size equals the lands on number. In Questions 4–5, two operations are performed in the number sentences. In Question 4, a number is added to the numbers multiplied to show that the hopper starts at a spot other than 0. In Question 5, the product is subtracted from 12 to show that it was a -2 hopper that started on 12.

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4. A +3 hopper starts on 2.

Number of Hops	Hop Size	Lands On	Number Sentence
1	3	5	$2 + 3 \times 1 = 5$
2	3		
3	3		
4	3		
5	3		

5. A -2 hopper starts on 12.

Number of Hops	Hop Size	Lands On	Number Sentence
1	-2	10	$12 - 1 \times 2 = 10$
2	-2		
3	-2		
4	-2		
5	-2		

6. Describe any patterns you see in the rows and columns in the tables in Questions 1–3.

7. How are the number sentences in Question 1–3 different from those in Questions 4–5?

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Operations On A Number Line

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